

block 530 will be followed and process block 570 will be entered. In process block 570, a (No Completion) process command 740 will be executed and a transition to DISABLE AutoComplete state 270 will occur. Block 560 in FIG. 8 will then be entered and the AutoComplete algorithm will be exited.

From the foregoing description, it will be appreciated that the present invention provides a method to improve the efficiency and reliability of data entry in a generic database by providing the ability for an automatic completion process utilizing a list of completed data items comprised of data associated with the item being entered. Although the present invention has been described as embodied in a spreadsheet application, it can be appreciated that the present invention can be utilized in any database storage or retrieval type application. Indeed, the present invention is not limited to any particular database or spreadsheet application.

The foregoing method of the present invention may be conveniently implemented in one or more program modules. No particular programming language has been indicated for carrying out the various tasks described above because it is considered that the operation, steps, and procedures described in the specification and illustrated in the accompanying drawings are sufficiently disclosed to permit one of ordinary skill in the art to practice the instant invention. Moreover, in view of the many different types of computers and program modules that can be used to practice the instant invention, it is not practical to provide a representative example of a computer program that would be applicable to these many different systems. Each user of a particular computer would be aware of the language and tools which are more useful for that user's needs and purposes to implement the instant invention.

The present invention has been described in relation to particular embodiments which are intended in all respects to be illustrative rather than restrictive. Those skilled in the art will understand that the principles of the present invention may be applied to, and embodied in, various program modules for execution on differing types of computers regardless of database application.

Alternative embodiments will become apparent to those skilled in the art to which the present invention pertains without departing from its spirit and scope. Accordingly, the scope of the present invention is described by the appended claims and supported by the foregoing description.

What is claimed is:

1. A method for completing a partial data entry for an active cell of a spreadsheet having a plurality of cells defining a grid of rows and columns, comprising the steps of:
 - invoking an edit mode for said active cell;
 - identifying a list of completed data items from a search region within said spreadsheet comprising a table of contiguous data-containing cells encompassing said active cell and bordered by empty cells;
 - defining a partial data entry within said active cell;
 - identifying a matching completed data item from within said list of completed data items that corresponds to said partial data entry;
 - displaying said matching completed data item as a suggested completion for said partial data entry;
 - receiving an acceptance command in association with said suggested completion; and
 - in response to said acceptance command, storing said partial data entry with said suggested completion within the active cell.

3. The method of claim 2, wherein said command is a user response and said operating step further comprises the steps of:

if said response is a command to exit said edit mode,
clearing said active cell.

sorting said filtered list to generate said list of completed data items.

7. The method of claim 5, wherein said block is confined to one of said rows of cells within said spreadsheet, said row containing said active cell.

removing surplus duplicated completed data items from said associated list of completed data items.

11. The method of claim 4, wherein each of said completed data items comprises formatting information, and said filtering step further comprises the step of removing said completed data items that do not comprise a specific formatting information.

in response to finding at least one said matching data item, equating said suggested completion to said matching data item.

defining a mask comprising said partial data entry;

- (a) selecting a set of K cells from said search region, said set excluding cells contained in said sub-list;
- (b) filtering surplus duplicated completed data items from said set of K cells to generate a filtered set;

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enabling an active cell to receive said partial data entry, said active cell being selected from a plurality of cells in response to placing a display item into a region occupied by said active cell;

receiving said partial data entry and displaying said partial data entry within said active cell;

in response to identifying said suggested completion, displaying said suggested completion within said active cell.

receiving a response pertinent to said suggested completion;

if said response contains a modified partial data item,
searching said list to identify a suggested completion
comprising said modified partial data item;

if said response is a command to exit said edit mode,
clearing said active cell.

retrieving a plurality of completed data items from a block of contiguous cells, said block being coterminous with said active cell, and forming said list of completed data items;

sorting said list of completed data items alphabetically, said completed data items containing at least one glyph from a set of glyphs having an alphabetical relationship.

defining a mask comprising said partial data entry;
searching said list of completed data items for at least one
matching data item corresponding to said mask;

defer identifying said suggested completion if more than one of said matching data items is found; and

31. The computer-readable medium of claim 27, wherein said displaying step further comprises the step of replacing said partial data entry in said active cell with said suggested completion.

32. The computer-readable medium of claim 27, further comprising the step of operating on said suggested completion in accordance with said acceptance command to per-

33. A computer system for completing a data entry for an active cell of a spreadsheet, comprising:

a processing unit;
a memory storage device;
an input device coupled to said processing unit for receiving data;

a program module, stored in said memory storage device for providing instructions to said processing unit;

enable an active cell to accept a partial data entry, said
active cell being selected from a plurality of cells in
response to moving a display item into a region
occupied by said active cell;

receive a partial data entry from said input device;
display said partial entry within said active cell on said
pixel-based display device;

in response to identifying said suggested completion,
display said suggested completion within said active
15 cell on said pixel-based display device.

receive a response pertinent to said suggested completion;
if said response is an acceptance of said suggested
10 completion, store said suggested completion in said
active cell as said data entry;

if said response is a rejection of said suggested completion, display said partial data item; and

30 35. The computer system of claim 33, wherein said search region is positionally based and said processing unit is operative to identify a list of completed data items by:

removing surplus duplicated completed data items from said list of completed data items; and

36. The computer system of claim 33, wherein said
5 processing unit conducts a search of said list of completed
data items by:

defining a mask comprising said partial data entry;

37. The computer system of claim 33, wherein said processing unit displays said suggested completion by

38. The computer system of claim 33, wherein said response is an acceptance of said suggested completion and said processing unit operates on said suggested completion in accordance with said response by performing a case conversion, said case conversion comprising an adjustment of the case of said partial item to correspond to the case of said suggested completion.

38. The computer system of claim 33, wherein said response is an acceptance of said suggested completion and said processing unit operates on said suggested completion in accordance with said response by performing a case conversion, said case conversion comprising an adjustment of the case of said partial item to correspond to the case of said suggested completion.

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